



OFFICE MEMORANDUM

DATE: November 12, 2002

TO: Region Engineers
Region Delivery Engineers
TSC Managers
Resident/Project Engineers
Region Construction Engineers

FROM: Larry E. Tibbits
Chief Operations Officer

John C. Friend
Engineer of Delivery

SUBJECT: Bureau of Highway Instructional Memorandum 2002-21
Transition Period for New 8 Foot Type III Barricade

MDOT's Engineering Operations Committee has adopted a new Type III barricade design. Until the letting of September 2004, our current 12 foot design or the new 8 foot design are both acceptable for use. Beginning with contracts let in October 2004, the 8 foot Type III barricade **only** will be permitted. Maintenance operations performed by direct forces or contract agencies must also convert to the new 8 foot Type III barricade design by October 2004.

The reason for the change is to meet the requirements of the FHWA's National Cooperative Highway Research Program (NCHRP) Report 350, *Recommended Procedures for the Safety Performance Evaluation of Highway Features*. NCHRP 350 requires that when a traffic control device is hit in a prescribed manner, the passenger compartment will not be penetrated nor the windshield shattered to a point where vision is blocked. The new design features plastic or plywood panels, two lightweight Type C lights (weighing less than 3.3 pounds), and panels 8 feet in length. The upright posts and support feet can be perforated square steel tubing or angle iron.

To allow time for contractors and Maintenance operations to switch their inventory to the new 8 foot Type III barricade, they may use either Type III barricade during the interim period. Designers should note, however, that from now until the October 2004 letting, they should specify the 12 foot Type III barricade, and the special provision will allow the 8 foot as an option.

Use the attached special provisions on all projects utilizing Type III barricades through the September 2004 letting. Note how the pay items are described. The 8 foot and 12 foot Type III barricades use the same pay item for this transition period.

The details of the Type III barricades are shown in the Standard Detail 125 series. The Standard Detail can be found on MDOT's website at www.michigan.gov/mdot (go to "Doing Business," then to "Design Service Center").

Assembly of the NCHRP 350 compliant Type III barricades must comply strictly to the Standard Detail. If not in compliance, the devices should be removed from the project site. Nominal dimension lumber is not to be used as panel material for the barricade, or it will not be NCHRP 350 compliant.

Any questions concerning this instructional memorandum should be directed to Jeff Grossklaus, Construction and Technology Division, at 517-322-5769 (grossklausj@michigan.gov).

Chief Operations Officer

Engineer of Delivery

BOHTS:C/T:JKG:kab

Attachments

Subject Index: Traffic Control

cc: C & T Division Staff
Real Estate, M. Frierson
Design Division, M. VanPortfleet
Maintenance Division, C. Roberts
Traffic & Safety Div., J. O'Doherty
C & T Division, J. Culp
T. Anderson
J. Friend
OEO - S. El Ahmad
C. Rademacher
V. Blaxton
B. Jay
K. Reincke
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MRBA
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MCPA
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MRPA
ACEC
MPA

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
TYPE III BARRICADE

C&T:JKG

1 of 1

C&T:APPR:CAL:JAR:09-30-02
FHWA:APPR:10-16-02

a. Description. To facilitate a transition period to convert all Type III barricades to be NCHRP 350 compliant, Type III barricades may be the previous standard design of 3.6 m or the NCHRP 350 compliant 2.4 m. Any newly purchased or manufactured Type III barricade must meet the NCHRP 350 design beginning October 1, 2002. All Type III Barricades must be NCHRP 350 compliant by the October, 2004, MDOT letting.

b. Materials. For the NCHRP 350 compliant Type III barricades, the materials shall be:

Materials shall be as described in the R-125 series for 2.4 m Type III barricade.

The perforated square steel tube shall be ASTM A-653 steel, grade 50.

The angle iron shall be high carbon, hot-rolled steel.

Reflectorized sheeting shall meet the requirements in Section 812.02.B.1 of the Standard Specification for Construction, or greater.

When called for, warning lights shall be Type C, weighing 1.5 kg or less.

The previously manufactured 3.6 m Type III barricades shall meet the requirements in Section 812.02.B.3. of the Standard Specification for Construction.

c. Construction. When a Type III Barricade is called for in the project documents, provide a previously manufactured 3.6 m Type III barricade or a 2.4 m NCHRP 350 compliant Type III barricade. Any newly built or manufactured Type III barricade must meet the NCHRP 350 criteria. If any warpage, twisting and sagging of the panels occur, the entire Type III Barricade is to be replaced at the Contractor's expense.

d. Measurement and Payment.

Pay items of **Barricade, Type III, Furnished; Barricade, Type III, Operated; Barricade, Type III, Lighted, Furnished; and Barricade, Type III, Lighted, Operated** will be measured and paid, as described in Section 812.04 of the Standard Specification for Construction.

If ASTM Type III reflectorized sheeting is used on the Type III Barricade the pay item(s) are the same as listed above.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
TYPE III BARRICADE

C&T:JKG

1 of 2

C&T:APPR:CAL:JAR:09-30-02
FHWA:APPR:10-16-02

a. Description. To facilitate a transition period to convert all Type III Barricades to be NCHRP 350 compliant, Type III barricades may be the previous design of 12 foot or the current NCHRP 350 compliant 8 foot standard. Any Type III barricade purchased or manufactured after October 1, 2002, must meet the current NCHRP 350 design. All Type III barricades must be NCHRP 350 compliant by the October, 2004, MDOT letting.

b. Materials. For the NCHRP 350 compliant Type III Barricades, the materials shall be:

Materials shall be as described in the R-125 series for 8 foot Type III barricade.

The perforated square steel tube shall be ASTM A-653 steel, grade 50.

The angle iron shall be high carbon, hot-rolled steel.

Sheeting shall be reflectorized orange and white diagonal striped ASTM Type III high intensity.

When called for, warning lights shall be Type C, weighing 3.3 pounds or less.

The previously manufactured 12 foot Type III barricades shall consist of reflectorized 3 - 1 inch x 12 foot rails, supports, supplemental weights and necessary hardware.

Sheeting shall be reflectorized orange and white diagonal striped ASTM Type I (engineering grade) or Type III (high intensity).

Type III barricades used during hours of darkness shall be lighted with two Type C warning devices securely fastened to the top of the two upright posts..

c. Construction. When called for in the project documents, provide a previously manufactured 12 foot Type III barricade or an 8 foot NCHRP 350 compliant Type III Barricade. Any newly built or manufactured Type III barricade must meet the NCHRP 350 criteria. If any warpage, twisting and sagging of the panels occur, the entire Type III Barricade is to be replaced at the Contractor's expense.

d. Measurement and Payment.

Pay items of **Barricade, Type III, High Intensity, Furnished; Barricade, Type III, High Intensity, Operated; Barricade, Type III, High Intensity, Lighted, Furnished** and **Barricade, Type III, High Intensity, Lighted, Operated** will be measured and paid, as described in section 812.04 of the Standard Specification for Construction. Pay items of **Barricade, Type III, High**

Intensity, Double-Sided, Furnished; Barricade, Type III, High Intensity, Double-Sided, Operated; Barricade, Type III, High Intensity, Double-Sided, Lighted, Furnished; and Barricade, Type III, High Intensity, Lighted, Double-Sided, Operated will be measured and paid, as described in the Special Provision, "Type III Barricades with Double Sided Sheeting".

If the previously manufactured 12 foot Type III Barricade is used the reflectorized sheeting may be ASTM Type I or III. The pay item is the same for either sheeting, as listed above.